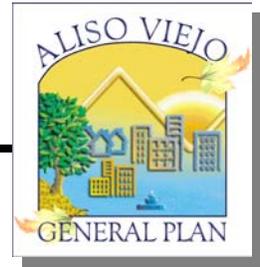


NOISE ELEMENT



INTRODUCTION

The City of Aliso Viejo desires to achieve and maintain an environment free from objectionable, excessive, or harmful noise to protect and enhance quality of life for residents. In addition to causing irritation, high noise levels can be a source of stress for those working and residing nearby. Creating effective strategies that reduce excessive noise and limit the community's exposure to loud noise sources is the central objective of the General Plan Noise Element.

PURPOSE OF THE NOISE ELEMENT

The purpose of the Noise Element is to identify current and potential future sources of noise so that future land uses can be organized and new development adequately designed in a manner that minimizes noise impacts to community residents and businesses. This Element contains policies and programs to achieve and maintain a safe noise environment within Aliso Viejo.

SCOPE AND CONTENT OF THE NOISE ELEMENT

The Noise Element is a mandatory component of the General Plan as outlined in the State Government Code. Noise exposure contours in the Element present quantified projections of future noise conditions associated with both short- and long-term growth. This noise information serves as the basis for guidelines describing compatible land uses.

The Noise Element has three sections: 1) this Introduction; 2) Issues, Goals and Policies; and 3) the Noise Plan. In the second section (Issues, Goals and Policies), goals and policies are established which address identified noise issues. The goals identify overall City desires and consist of broad statements of purpose and direction. The policies are guidelines aimed to reduce or avoid adverse noise effects on residents and businesses. The Noise Plan describes how goals and policies will be achieved, or implemented. Specific implementation for the Noise Element is provided in the General Plan Implementation Program, located in Appendix A.

RELATED PLANS AND PROGRAMS

Many plans and programs enacted through State and local legislation directly relate to the Noise Element. These plans and programs are administered by agencies with powers to enforce State and local laws.

California Environmental Quality Act (CEQA) and Guidelines

The California Environmental Quality Act (CEQA) was adopted by the State legislature in response to a public mandate for thorough environmental analysis of projects that might affect the environment. The provisions of the law and environmental review procedure are described in the CEQA Statutes and the CEQA Guidelines. Excessive noise is considered an environmental impact under CEQA. Implementation of

CEQA ensures that during the decision making stage of development, City officials and the general public will be able to assess the potential noise impacts associated with private and public development projects.

California Noise Insulation Standards (Title 24)

The California Commission of Housing and Community Development officially adopted noise insulation standards in 1974. In 1988, the Building Standards Commission approved revisions to the standards (Title 24, Part 2, California Code of Regulations). As revised, Title 24 establishes an interior noise standard of 45 dB(A) for residential space (CNEL or Ldn). Acoustical studies must be prepared for residential structures to be located within noise contours of 60 dB(A) or greater (CNEL or Ldn) from freeways, major streets, thoroughfares, rail lines, rapid transit lines, or industrial noise sources. The studies must demonstrate that the building is designed to reduce interior noise to 45 dB(A) or lower (CNEL or Ldn).

City of Aliso Viejo Noise Control Ordinance

Upon incorporation, Aliso Viejo adopted the Orange County Noise Control Ordinance. The Ordinance establishes interior and exterior noise standards, controls for nuisance and business-related noise, and specific standards for acceptable daytime and nighttime noise levels. Requirements of the Noise Control Ordinance are identified in this Element.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

State planning law requires the Noise Element to be consistent with other General Plan elements. The Land Use, Circulation and Conservation/Open Space Elements are most closely related to the Noise Element.

Policies and plans developed in the Noise Element are intended to protect current and planned land uses identified in the Land Use Element from excessive noise. Potential noise sources are identified in the Noise Element and programs are established to avoid or mitigate noise impacts from planned development. At the same time, policies contained in the Land Use Element ensure that environmental conditions, including noise, are considered in all land use decisions. Preventing the intrusion of negative environmental conditions, such as excessive noise, in order to create a healthy environment is a central objective of the Land Use Element.

The transportation issues discussed in the Circulation Element are also directly related to the Noise Element. Noise from transportation is largely responsible for excessive noise levels in certain locations in urban environments. Projected noise distribution, depicted as noise contours, is corollary to the Circulation Plan. Noise policies and implementation are largely based on the Circulation Element and are aimed to minimize the effects of transportation noise on current and planned land uses.

The Conservation/Open Space Element is also related to the Noise Element. Enjoyment of parks and open spaces can be diminished by excessive noise, and noise information provided in the Noise Element should be considered in planning new recreational areas. At the same time, where appropriate, open space areas can serve as effective buffers between sensitive land uses and noise producers.



ISSUES, GOALS, AND POLICIES

Some parts of Aliso Viejo are subject to high noise levels, which can reduce quality of life in residential neighborhoods and for certain other sensitive uses, like churches and schools. Consideration of noise sources in the planning process, combined with identification of affected areas can minimize the impacts of noise on the community.

Noise Element goals, policies and implementation address three issues: (1) avoiding the negative impacts of noise through land use planning and noise reduction measures; (2) minimizing the impact of transportation related noise; and (3) minimizing the impact of non-transportation related noise.

NOISE AND LAND USE PLANNING

Consideration of the sources and recipients of noise early in the land use planning and development process can be an effective way to reduce the impact of noise on the community. Consideration should be given to both reducing noise in severely impacted areas through rehabilitative improvements and avoiding potential noise impacts through effective land use planning.



Goal	Minimize the impact of point source noise and ambient noise levels throughout the community.
N-1	

Policy N-1.1 Ensure that construction and occupancy of new development are compatible with, and do not exceed thresholds defining the acceptable noise environment in surrounding areas.

Policy N-1.2 Require inclusion of noise-reducing design features in development projects to address the impact of noise on residential development.

TRANSPORTATION RELATED NOISE

Excessive noise levels in Aliso Viejo are caused primarily by traffic on the San Joaquin Hills Transportation Corridor (SR-73) and major thoroughfares. Reduction of transportation-related noise levels is desired to improve quality of life in all neighborhoods and for other noise-sensitive land uses.



Goal	Minimize transportation-related noise impacts.
N-2	

Policy N-2.1 Ensure noise impacts generated by motorized vehicles are minimized through the use of noise attenuation measures on City streets.

Policy N-2.2 Control truck traffic routing within the City.

NOISE ELEMENT



Policy N-2.3 Require inclusion of sound-reducing design measures in development projects impacted by transportation-related noise.

Policy N-2.4 Encourage use of alternative transportation technologies that minimize noise impacts.

NON-TRANSPORTATION RELATED NOISE

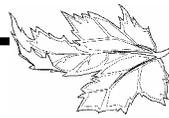
Noise is also associated with construction activity, manufacturing or business operations, and everyday activities in Aliso Viejo neighborhoods, such as leafblowing and lawnmowing.



Goal N-3	Minimize noise impacts from sources other than transportation.
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Policy N-3.1 Ensure stationary noise impacts on sensitive receptors and noise emanating from construction activities, private developments/residences, landscaping activities and special events are minimized.

Policy N-3.2 Require that mixed-use structures and areas be designed to prevent transfer of noise and vibration from commercial uses to residential uses.



NOISE PLAN

As the population of Aliso Viejo and the surrounding region increases, noise levels associated with transportation and non-transportation related sources will also increase. The City has established goals and policies (listed in the previous section) to safeguard the community from excessive noise levels as the ambient noise level in the community rises. The Noise Plan describes the approach for achieving this aim and provides a general outline of action programs. As an extension of the Noise Plan, noise implementation contained in Appendix A of the General Plan describes specific actions that the City will take to protect the overall quality of life in the community.

NOISE POLICY MAP

Figure N-1 presents graphically the City's noise policies and plan. The Noise Policy Map presents the locations of future noise contours surrounding City roadways, within which land use compatibility and noise mitigation requirements outlined in the Noise Plan will be evaluated and required as needed as a part of development review. In addition, the map identifies the location of several "sensitive receptors". These schools, child care facilities, senior housing complexes, churches, and other similar facilities should be protected from additional noise intrusions associated with new development or roadway improvements, to the extent feasible. As applicable, the Noise Plan refers to the Policy Map for identification of significant locations, conditions, or development requirements.

NOISE AND LAND USE PLANNING

Accumulation of noise from transportation activities and stationary sources determines the overall noise environment within a community. Noise generated from automobile use, trucking, airport and rail operations is referred to as transportation related noise, while noise from stationary sources such as commercial establishments, machinery, air conditioning systems, compressors and landscape maintenance equipment is typically referred to as non-transportation noise. Noise is most problematic when it affects noise sensitive land uses that include, but are not limited to residences, schools, hospitals, religious meetings and recreational areas. These uses are considered sensitive because the presence of excessive noise may interrupt normal activities typically associated with the use. Sensitive receptor sites in Aliso Viejo are identified in the Noise Policy Map (Figure N-1). Consideration of noise sources, sensitive land uses, and information regarding the future noise environment leads to implementation of effective ways to avoid noise impacts.

Measuring Noise

Noise generally is defined as unwanted or intrusive sound. Because noise consists of pitch, loudness, and duration, describing noise with a single unit of measure presents a challenge. The A-weighted decibel scale (dB(A)) has been developed to describe the loudness of a sound or sound environment based on the sensitivity of the human ear.

The dB(A) descriptor only reports noise from a single source or combination of sources at a point in time. To allow a more comprehensive description of the noise environment, Federal and State agencies have established noise and land use compatibility guidelines that use averaging approaches to noise measurement. Two measurement scales commonly used in California are the Community Noise Equivalent Level (CNEL) and the day-night level (Ldn). To account for increased human sensitivity at night, the CNEL level includes a 5-decibel penalty on noise during the 7:00 a.m. to 10:00 p.m. time period and a 10-decibel penalty on noise during the 10:00 p.m. to 7:00 a.m. time period. The Ldn level includes only the 10 decibel weighting for late-night noise. These values are nearly identical for all but unusual noise sources.

Noise Standards and Land Use Compatibility

Table N-1 summarizes County of Orange residential noise standards adopted by the City of Aliso Viejo. The standards represent the maximum acceptable noise levels as measured from any residential property in the City. Accordingly, it is unlawful to cause the noise level on any residential property to exceed the exterior noise standards: 1) for a cumulative period of more than thirty minutes in any hour; 2) plus five dB(A) for a cumulative period of more than 15 minutes in any hour; 3) plus 10 dB(A) for a cumulative period of more than five minutes in any hour; 4) plus 15 dB(A) for a cumulative period of more than one minute in any hour; or 5) plus 20 dB(A) for any period of time. In addition, any noise that exceeds the interior noise standards established for residential uses: 1) for a cumulative period of more than five minutes in any hour; 2) plus five dB(A) for a cumulative period of more than one minute in any hour; or 3) plus 10 dB(A) for any period of time, is unlawful.

**Table N-1
Orange County Residential Noise Standards**

	Daytime Noise Standards (7am to 10pm)	Nighttime Noise Standards (10pm to 7am)
Interior Noise Standards	55 dB(A)	45 dB(A)
Exterior Noise Standards	55 dB(A)	50 dB(A)

Source: County of Orange Code of Ordinances, 2003.

Note: Standards are based on measurements taken from any residential property in the City.

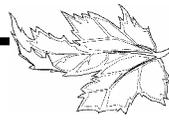
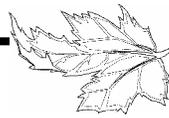


Figure N-1
Noise Policy Map
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NOISE ELEMENT



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The City's noise standards serve as the basis for the land use compatibility guidelines presented in Table N-2. A project is considered to be compatible with the noise environment if the noise level generated by the project falls within Zone A or Zone B. If the anticipated noise level of a proposed project falls into Zone A, typically no mitigation is needed and if it falls into Zone B, minor mitigation may be required to meet City and State Title 24 noise standards. All project proponents must demonstrate that noise standards have been met prior to human occupation of a building.

If the noise level of a proposed project falls within Zone C, substantial mitigation is likely needed to meet City noise standards. Mitigation may include construction of noise barriers, and/or the inclusion of substantial building sound insulation. Projects in Zone C can be successfully mitigated; however, project proponents with a project in Zone C must demonstrate that the noise standards can be met prior to issuance of a building permit. If noise levels of a proposed project fall within Zone D, the project is clearly incompatible with the noise environment and should not be approved.

The City Planning Director acts as the noise control coordinator, while Aliso Viejo Police Services is responsible for abating nuisance noises. This delegation of responsibility allows consistent and continual enforcement of the noise standards.

Noise Contours and Impacted Areas

Noise contours, based on the location of major noise sources, describe the noise environment within the community. These contours outline areas of equal noise exposure. Information about existing and projected land use development and transportation activity has been used to estimate future noise contours for Aliso Viejo.

Future noise contours for Aliso Viejo are displayed on the Noise Policy Map (Figure N-1). These contours will guide land use and development decisions to address potential noise issues. Noise impacted areas are those areas that fall within the 60 dB(A) CNEL or greater noise contours. An acoustical analysis must be prepared prior to approval of a noise sensitive project proposed within an identified noise impact area in order to assess the impact in more detail. The analysis must show that the project is designed to attenuate noise to meet the City's noise standards as set forth in Tables N-1 and N-2 in order to receive approval.

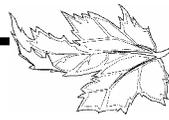
In addition, noise producing land uses will be evaluated using the standards in Tables N-1 and N-2 to ensure that proposed land uses do not adversely impact the current noise environment. If proposed project designs do not meet noise standards, mitigation will be recommended. If the analysis demonstrates that the noise standards can be met by implementing the mitigation measures, the project can be approved conditioned upon those measures. Noise attenuation measures may include soundwalls, berms, and other noise-reducing devices.

**Table N-2
Noise/Land Use Compatibility Matrix**

Land Use	Community Noise Exposure (Ldn or CNEL)							
	50	55	60	65	70	75	80	85
Residential	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Transient Lodging – Motel, Hotel	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Schools, Libraries, Churches, Hospitals, Nursing Homes	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Auditoriums, Concert Halls, Amphitheaters	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Sports Arena, Outdoor Spectator Sports	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Playgrounds, Parks	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Golf Course, Riding Stables, Water Recreation, Cemeteries	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Office Buildings, Business Commercial, and Professional	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
Industrial, Manufacturing, Utilities, Agriculture	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D
	Zone A		Zone B			Zone C		Zone D

Source: Modified by CBA from 1998 State of California General Plan Guidelines.

-  ZONE A - Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.
-  ZONE B - Conditionally Acceptable: New construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the project design.
-  ZONE C - Normally Unacceptable: New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.
-  ZONE D - Clearly Unacceptable: New construction or development clearly should not be undertaken.



Portions of the community fall within the 65 dB(A) CNEL noise contour as depicted in the Airport Environs Land Use Plan (AELUP) for the former Marine Corps Air Station El Toro. At the time this land was developed, the type and intensity of uses were restricted due to noise impacts from the former Air Station. Impacted areas include a broad spectrum of land uses such as business parks, residential areas, and open spaces. Based on provisions within the AELUP, all types of residential uses are normally unacceptable in 65 dB(A) CNEL areas.

Opportunities to intensify areas that were previously within this unacceptable noise contour have emerged in neighboring communities following closure of the Air Station, and future opportunities for such redevelopment exist within portions of Aliso Viejo. The City will continue to monitor the status of the El Toro AELUP and opportunities for appropriate redevelopment of areas within the contour at higher intensities, or with uses that would not have been permitted before closure of the Air Station.

Construction Standards

The City of Aliso Viejo will continue to enforce the provisions of the California Energy Code. Energy Code standards specify that combined indoor noise for multi-family living spaces shall not exceed 45 dB(A) CNEL and must be implemented when the outdoor noise level exceeds 60 dB(A) CNEL. The Noise Policy Map (Figure N-1) can be used to determine when and where it is appropriate to implement this standard. The standard must be applied to all new hotels, motels, and multifamily residential development.

TRANSPORTATION RELATED NOISE

Transportation activity is a significant contributor of noise to the overall noise environment within Aliso Viejo. Transportation related noise is primarily concentrated along the transportation corridors that traverse the community such as State Route 73, major arterials and collector roads.

Noise Control at Reception Sites

The City has little direct control over noise produced by transportation sources since the State is responsible for regulating motor vehicle noise. Therefore, City noise programs focus on reducing the impact of transportation noise on the community.

The most effective ways to mitigate transportation noise impacts on the community are through utilization of a design review process, and implementation of the California Environmental Quality Act (CEQA). Identification of potential impacts from transportation noise will occur during these stages of the development process and mitigation measures may be required to meet City noise standards identified in this Element. The most common ways to reduce transportation-related noise impacts are through site planning, landscaping, use of natural topography, and the design and construction of noise barriers. Small noise reductions can also be achieved by use of setbacks and landscaping.





Noise barriers should be included in roadway and freeway designs and improvements. The City supports efforts by Caltrans and the Transportation Corridor Authority (TCA) to provide acoustical protection for noise sensitive uses along transportation corridors. Additionally, the City will request that barriers be included in any future improvement projects along SR-73 to mitigate identified or potential long- and short-term noise impacts to nearby residences and businesses from roadway expansion or construction related activity. The City continues to promote the use of berms, embankments, landscaping, setbacks, and architectural design where appropriate and effective, rather than conventional wall barriers to enhance community aesthetics.

Noise Control at the Source

Reducing noise at the source is the most efficient and effective way to control noise from transportation systems. The California Vehicle Code contains noise regulations pertaining to the operation of all vehicles on public roads, which are enforced through coordination with the California Highway Patrol and the Orange County Sheriff's Department. While the City is ultimately limited in its ability to restrict noise at the source, Aliso Viejo regulates traffic flow and coordinates with the California Highway Patrol and the Orange County Sheriff's Department to enforce speed limits to reduce traffic noise.

NON-TRANSPORTATION RELATED NOISE

In addition to transportation related noise, excessive noise generated by non-transportation sources, such as commercial and industrial centers, agricultural activities, and restaurants and bars, have the potential to impact sensitive receptors. Enforcement of City noise requirements, analysis of potential noise impacts during the site design review process, and compliance with CEQA are the best means to protect sensitive receptors. Potential noise impacts can be identified during the preliminary stages of the development process and mitigation measures can be imposed.

When reviewing proposed non-residential projects, the City considers noise generation and potential impacts to surrounding development. New development can be made compatible with the noise environment by utilizing noise/land use compatibility standards and the Noise Policy Map as a guide for future planning and development decisions. An acoustical analysis is required for projects that will generate noise potentially affecting sensitive receptors. Where significant impacts are identified, mitigation measures are required. Mitigation measures that could be applied when reviewing projects include acoustically treated and/or quiet designs for furnaces, fans, motors, compressors, valves, pumps and other mechanical equipment. Noise resulting from special one-time events should be minimized as well. The City may also require limited delivery hours and/or hours of operation in order to minimize impacts to adjacent residential uses. In addition, all City departments must comply with State and federal OSHA standards. Any new equipment or vehicles purchased by the City will comply with local, State and federal noise standards, and the City will encourage landscaping contractors to utilize modern noise-reducing equipment.



Noise Control Ordinance

Upon incorporation, the City adopted the County of Orange Noise Control Ordinance. This Ordinance is designed to protect people from non-transportation related noise sources such as construction activity, machinery and pumps, and air conditioners. Enforcing the Ordinance requiring proposed development projects to demonstrate compliance ensures that adjacent properties are not exposed to excessive noise from stationary sources or nuisances. The Ordinance will be reviewed periodically for adequacy and amended as needed to address community needs and development patterns.

The City also has the opportunity to control noise and vibration transfers between adjacent land uses. Particular problems arise in cases where noise-producing uses are located immediately adjacent to sensitive uses, such as business park areas near residences or schools. Mixed use projects also present unique problems in this area, such as when restaurants with nighttime entertainment are located below residential units. The City's Zoning Ordinance or any Specific Plan developed following adoption of the General Plan will include standards regulating noise and vibration transfers within mixed use development projects.

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